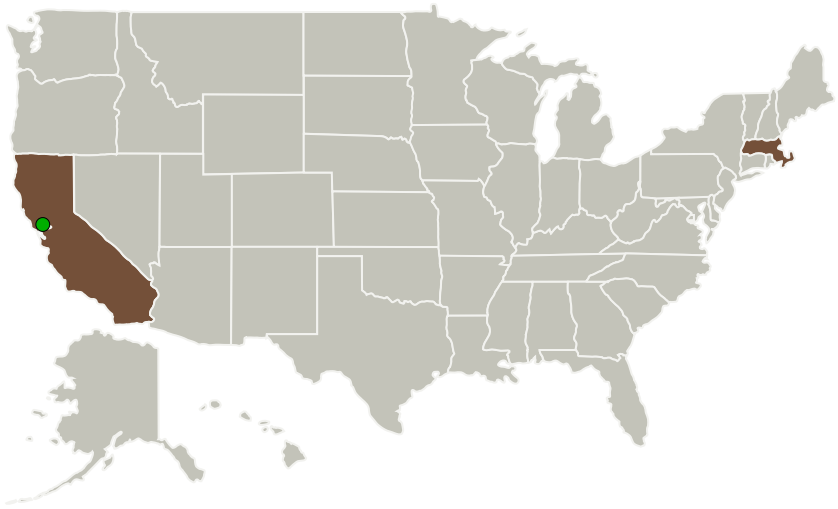
Robotic Vehicle Proxy Simulation, Phase I

Completed Technology Project (2010 - 2010)

Project Introduction

Energid Technologies proposes the development of a digital simulation that can replace robotic vehicles in field studies. This proxy simulation will model the dynamics, terrain interaction, sensors, control, communications, and interfaces of the robotic vehicle with the goal of making field studies easier and more thorough. The simulation will be easy to use by simple execution on a networked PC. It will be thorough in its ability to model a range of environments, from terrestrial to lunar, and through its ability to provide extensive sensor and truth data for analysis. The effort will include the development of robot and environment models tailored to the simulation of field-study vehicles, and it will emphasize mimicking the network interfaces used by NASA. The proxy simulation will be able to model multiple robots simultaneously, and included in the effort is the development of tools to support the control and visualization of multiple robots during field tests. Energid will design the system and implement components for demonstration at the end of the Phase I.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Energid Technologies	Lead Organization	Industry	Cambridge, Massachusetts
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Massachusetts

Project Transitions

January 2010: Project Start

July 2010: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/140060)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Energid Technologies

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

James D English

Co-Investigator:

James English

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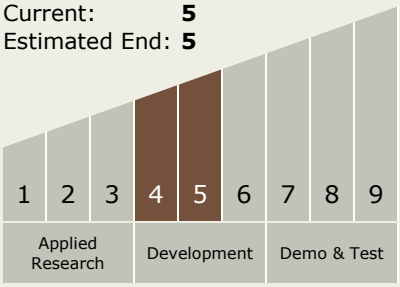
Technology Maturity (TRL)

Start: **4**
Current: **5**
Estimated End: **5**



Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.2 Modeling
    - TX11.2.2 Integrated Hardware and Software Modeling

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System